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=> file medline caplus embase biosis biotechds scisearch
COST IN U.S. DOLLARS                               SINCE FILE          TOTAL
                                                    ENTRY          SESSION
FULL ESTIMATED COST                               0.21          0.21
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W: CA, CN, JP, US

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE

EP 977867 A1 20000209 EP 1998-940118 19980702

R: BE, CH, DE, DK, FR, GB, IT, LI, NL

JP 2001511350 T2 20010814 JP 2000-504259 19980702

US 6436681 B1 20020820 US 2000-462645 20000111

PRIORITY APPLN. INFO.:

DE 1997-19731274 A 19970722

WO 1998-EP4097 W 19980702

AB A method of manufg. **biotin** using transgenic microorganisms expressing two gene of **biotin** biosynthesis (**bioS1** and **bioS2**) of Escherichia coli is described. The genes increase the efficiency of conversion of dethiobiotin to **biotin**. The genes can be expressed in a wide range of prokaryotic and microbial eukaryotic hosts or in transgenic plants. Preferably, the host has a high endogenous rate of **biotin** synthesis and is defective in the regulation of **biotin** formation. The **bioS1** and **bioS2** genes, or variants, are co-expressed with one or more copies of the **biotin** biosynthesis genes **bioA**, **bioB**, **bioC**, **bioD**, **bioH**, **bioP**, **bioW**, **bioX**, **bioY**, or **bioR**. Escherichia coli carrying a **biotin** regulon on the plasmid **pHBbio14** and the **bioS1** gene on the plasmid **pHS2bioS1** had a yield of **biotin** of 19.2 mg/L compared to a yield of 9.4 mg/L for cells carrying **pHBbio14** alone.

L5 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:549387 CAPLUS

DOCUMENT NUMBER: 131:169391

TITLE: Fermentation of **biotin** using genetically engineered microorganisms expressing genes of **biotin** biosynthesis of Escherichia coli

INVENTOR(S): Schroder, Hartwig

PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 64 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9942591	A1	19990826	WO 1999-EP1052	19990217
W: CA, CN, IL, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19806872	A1	19990826	DE 1998-19806872	19980219
CA 2321264	AA	19990826	CA 1999-2321264	19990217
EP 1054977	A1	20001129	EP 1999-908923	19990217
R: AT, CH, DE, ES, FR, GB, IT, LI, NL, FI				
JP 2002504338	T2	20020212	JP 2000-532531	19990217
PRIORITY APPLN. INFO.:		DE 1998-19806872 A 19980219		
		WO 1999-EP1052 W 19990217		

AB The invention concerns the prodn. of **biotin** by culturing transgenic organisms expressing at least two Escherichia coli genes, the methionine adenosyltransferase gene **metK** and one of the **biotin** biosynthesis genes (**bioS1**, **bioS2**, **bioS3**) or their functional variants; the synthesized **biotin** is isolated from the biomass as end-product. Regulation deficient prokaryotic and eukaryotic host organisms are used. One or more copies of the **metK** and **bioS1/bioS2/bioS3** genes can be coexpressed with one or more copies of the **biotin** biosynthesis genes **bioA**, **bioB**, **bioC**, **bioD**, **bioF**, **bioH**, **bioP**, **bioW**, **bioX**, **bioY**, **bioR** individually or in combination. Escherichia coli carrying a **biotin** regulon on

the plasmid pHBbio14 was transformed with plasmids contg. pHs1 and
bioS1 or pHs1, bioS1 and metK; the non-transformed cells
produced 11 mg/mL biotin, while overexpression resulted 45 and
52 mg/mL resp.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s (gene or dna or nucleic acid) and (bioS1 or bioS2 or bioS3)

2 FILES SEARCHED...

L6 3 (GENE OR DNA OR NUCLEIC ACID) AND (BIOS1 OR BIOS2 OR BIOS3)

=> dup rem l6

PROCESSING COMPLETED FOR L6

L7 2 DUP REM L6 (1 DUPLICATE REMOVED)

=> d l7 1-2

L7 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 1

AN 1999:81659 CAPLUS

DN 130:152652

TI Fermentation of biotin using genetically engineered microorganisms
expressing genes of biotin biosynthesis of Escherichia coli

IN Schroeder, Hartwig; Hauer, Bernhard

PA BASF A.-G., Germany

SO Ger. Offen., 48 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19731274	A1	19990128	DE 1997-19731274	19970722
	WO 9905285	A1	19990204	WO 1998-EP4097	19980702
	W: CA, CN, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 977867	A1	20000209	EP 1998-940118	19980702
	R: BE, CH, DE, DK, FR, GB, IT, LI, NL				
	JP 2001511350	T2	20010814	JP 2000-504259	19980702
	US 6436681	B1	20020820	US 2000-462645	20000111
PRAI	DE 1997-19731274	A	19970722		
	WO 1998-EP4097	W	19980702		

L7 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS

AN 1999:549387 CAPLUS

DN 131:169391

TI Fermentation of biotin using genetically engineered microorganisms
expressing genes of biotin biosynthesis of Escherichia coli

IN Schroder, Hartwig

PA BASF Aktiengesellschaft, Germany

SO PCT Int. Appl., 64 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9942591	A1	19990826	WO 1999-EP1052	19990217
	W: CA, CN, IL, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19806872	A1	19990826	DE 1998-19806872	19980219

CA 2321264 AA 19990826 CA 1999-2321264 19990217
 EP 1054977 A1 20001129 EP 1999-908923 19990217
 R: AT, CH, DE, ES, FR, GB, IT, LI, NL, FI
 JP 2002504338 T2 20020212 JP 2000-532531 19990217
 PRAI DE 1998-19806872 A 19980219
 WO 1999-EP1052 W 19990217
 RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s (bioS1 or bioS2 or bioS3)
 L8 4 (BIOS1 OR BIOS2 OR BIOS3)

=> dup rem l8
 PROCESSING COMPLETED FOR L8
 L9 3 DUP REM L8 (1 DUPLICATE REMOVED)

=> d l8 1-3 ibib ab

L8 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1999:549387 CAPLUS
 DOCUMENT NUMBER: 131:169391
 TITLE: Fermentation of biotin using genetically engineered
 microorganisms expressing genes of biotin biosynthesis
 of Escherichia coli
 INVENTOR(S): Schroder, Hartwig
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 64 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9942591	A1	19990826	WO 1999-EP1052	19990217
W: CA, CN, IL, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19806872	A1	19990826	DE 1998-19806872	19980219
CA 2321264	AA	19990826	CA 1999-2321264	19990217
EP 1054977	A1	20001129	EP 1999-908923	19990217
R: AT, CH, DE, ES, FR, GB, IT, LI, NL, FI				
JP 2002504338	T2	20020212	JP 2000-532531	19990217
PRIORITY APPLN. INFO.: DE 1998-19806872 A 19980219				
WO 1999-EP1052 W 19990217				

AB The invention concerns the prodn. of biotin by culturing transgenic organisms expressing at least two Escherichia coli genes, the methionine adenosyltransferase gene metK and one of the biotin biosynthesis genes (**bioS1, bioS2, bioS3**) or their functional variants; the synthesized biotin is isolated from the biomass as end-product. Regulation deficient prokaryotic and eukaryotic host organisms are used. One or more copies of the metK and **bioS1/bioS2/bioS3** genes can be coexpressed with one or more copies of the biotin biosynthesis genes bioA, bioB, bioC, bioD, bioF bioH, bioP, bioW, bioX, bioY, bioR individually or in combination. Escherichia coli carrying a biotin regulon on the plasmid pHBbio14 was transformed with plasmids contg. pHS1 and **bioS1** or pHS1, **bioS1** and metK; the non-transformed cells produced 11 mg/mL biotin, while overexpression resulted 45 and 52 mg/mL resp.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:81659 CAPLUS
DOCUMENT NUMBER: 130:152652
TITLE: Fermentation of biotin using genetically engineered microorganisms expressing genes of biotin biosynthesis of Escherichia coli
INVENTOR(S): Schroeder, Hartwig; Hauer, Bernhard
PATENT ASSIGNEE(S): BASF A.-G., Germany
SOURCE: Ger. Offen., 48 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19731274	A1	19990128	DE 1997-19731274	19970722
WO 9905285	A1	19990204	WO 1998-EP4097	19980702
W: CA, CN, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 977867	A1	20000209	EP 1998-940118	19980702
R: BE, CH, DE, DK, FR, GB, IT, LI, NL				
JP 2001511350	T2	20010814	JP 2000-504259	19980702
US 6436681	B1	20020820	US 2000-462645	20000111
PRIORITY APPLN. INFO.:			DE 1997-19731274 A	19970722
			WO 1998-EP4097 W	19980702

AB A method of manufg. biotin using transgenic microorganisms expressing two gene of biotin biosynthesis (**bioS1** and **bioS2**) of Escherichia coli is described. The genes increase the efficiency of conversion of dethiobiotin to biotin. The genes can be expressed in a wide range of prokaryotic and microbial eukaryotic hosts or in transgenic plants. Preferably, the host has a high endogenous rate of biotin synthesis and is defective in the regulation of biotin formation. The **bioS1** and **bioS2** genes, or variants, are co-expressed with one or more copies of the biotin biosynthesis genes bioA, bioB, bioC, bioD, bioH, bioP, bioW, bioX, bioY, or bioR. Escherichia coli carrying a biotin regulon on the plasmid pHBbio14 and the **bioS1** gene on the plasmid pHS2bioS1 had a yield of biotin of 19.2 mg/L compared to a yield of 9.4 mg/L for cells carrying pHBbio14 alone.

L8 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1977:117199 CAPLUS
DOCUMENT NUMBER: 86:117199
TITLE: Life support system with autonomous control employing plant photosynthesis
AUTHOR(S): Gitel'zon, I. I.; Terskov, I. A.; Kovrov, B. G.; Sidko, F. Ya.; Lisovskii, G. M.; Okladnikov, Yu. N.; Belyanin, V. N.; Trubachev, I. N.; Rerberg, M. S.
CORPORATE SOURCE: L. V. Kinenskii Phys. Inst., Krasnoyarsk, USSR
SOURCE: Acta Astronautica (1976), 3(9-10), 633-50
CODEN: AASTCF; ISSN: 0094-5765
DOCUMENT TYPE: Journal
LANGUAGE: English

AB This research was aimed to obtaining a closed control system, that was achieved by placing all the technol. processes providing for human vital activities within the hermetically sealed space, and by transferring the entire control and guidance of these processes to people inhabiting the system. In contrast to existing biol. life support systems, man was included not only as a participant of metab., but as an operator who is the central figure in collecting information, making decisions and

controlling all technol. processes. To tackle this problem, the BIOS-3 exptl. complex was created for performing long-term expts. using different structures of biol. life-support system. The expt. lasted 6 months and consisted of 3 stages. During the 1st stage the system was comprised of 2 equiv. phytotrons with the culture of wheat and an assortment of vegetable plants, and the living compartment. At the second stage, one of the phytotrons was removed while a compartment of Chlorella cultivators was introduced. The 3rd stage differed from the second, the former using wheat phytotron and the latter employing phytotron with an assortment of vegetable cultures. Three men inhabited the system simultaneously. The expt. demonstrated that a biol. life support system controlled autonomously from the inside is feasible within a small confined space. However, immunol. and microbiol. research shows, that the medium created by the system is not fully adequate for man.

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=> s (bios1 or bios2 or bios3) and biotin
L10          3 (BIOS1 OR BIOS2 OR BIOS3) AND BIOTIN
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```
=> s (SAM synthase or s-adenosyl methionine synthase) and (dna or nucleic acid or gene)
  2 FILES SEARCHED...
L11          28 (SAM SYNTHASE OR S-ADENOSYL METHIONINE SYNTHASE) AND (DNA OR
              NUCLEIC ACID OR GENE)
```

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=> dup rem l11
PROCESSING COMPLETED FOR L11
L12          18 DUP REM L11 (10 DUPLICATES REMOVED)
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=> s l12 and escherichia coli
L13          1 L12 AND ESCHERICHIA COLI
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=> d l13 ibib ab
```

L13 ANSWER 1 OF 1 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

ACCESSION NUMBER: 1999-13501 BIOTECHDS

TITLE: Production of biotin by expressing **S-adenosyl-methionine-synthase** and second biotin synthesis **gene** in host cells; recombinant vitamin production via vector plasmid pHBbio14 or plasmid pHS1metKbioS-1-mediated enzyme and bioS-1 **gene** transfer and expression in **Escherichia coli**

AUTHOR: Schroeder H

PATENT ASSIGNEE: BASF

LOCATION: Ludwigshafen, Germany.

PATENT INFO: DE 19806872 26 Aug 1999

APPLICATION INFO: DE 1998-1006872 19 Feb 1998

PRIORITY INFO: DE 1998-1006872 19 Feb 1998

DOCUMENT TYPE: Patent

LANGUAGE: German

OTHER SOURCE: WPI: 1999-480095 [41]

AB A method for the production of biotin (I), which consists of expressing, in a prokaryotic or eukaryotic host capable of producing (I), an **S-adenosyl-methionine-synthase** 1,155 bp **DNA** sequence (1) and at least one other biotin synthesis **gene** from bioS-1, -2 or -3 which have 1,206 (2), 1,215 (3) and 1,221 (4) bp **DNA** sequences, respectively, is new. Also claimed are: an agent construct containing (1) and at least one of (2), (3) or (4), or their functional variants, analogs or derivatives, linked to one or more regulatory signals for increased **gene** and/or protein expression; organisms containing the construct; and the use of the bioS-3 **gene**, or its variants, analogs or derivatives alone or in combination with other biotin synthesis genes for the

production of (I). (I) is an essential vitamin (vitamin H) for most animals and some microorganisms. In an example, vector plasmid pHBbio14 and plasmid pHS1metKbioS-1 (containing the **S-adenosyl-methionine-synthase** metK and bioS-1 genes of **Escherichia coli**) were used to transform E. coli W3110 cells. The cells were cultures overnight in a glycerol-containing culture medium and IPTG and arabinose were added to induced **gene** expression. (47pp)

=> schroeder hartwig/au
 SCHROEDER IS NOT A RECOGNIZED COMMAND
 The previous command name entered was not recognized by the system.
 For a list of commands available to you in the current file, enter
 "HELP COMMANDS" at an arrow prompt (=>).

=> s schroeder hartwig/au
 L14 26 SCHROEDER HARTWIG/AU

=> dup rem l14
 PROCESSING COMPLETED FOR L14
 L15 21 DUP REM L14 (5 DUPLICATES REMOVED)

=> d l15 1-5 ibib ab

L15 ANSWER 1 OF 21 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:352115 CAPLUS
 TITLE: Genes for DNA-Replikations-und the pathogenesis proteins code [Machine Translation].
 INVENTOR(S): Zelder, Oskar; Pompejus, Markus; **Schroeder, Hartwig**; Kroeger, Burkhard; Klopprogge, Corinna; Haberhauer, Gregor
 PATENT ASSIGNEE(S): BASF A.-G., Germany
 SOURCE: Ger. Offen., 258 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10154246	A1	20030508	DE 2001-10154246	20011105

PRIORITY APPLN. INFO.: DE 2001-10154246 20011105
 AB [Machine Translation of Descriptors]. The invention concerns new nucleic acid mols., their use to the construction of genetically improved microorganisms and procedure for the prodn. of fine chems., in particular amino acids with the help of these genetically improved microorganisms.

L15 ANSWER 2 OF 21 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:352114 CAPLUS
 TITLE: Genes those for membeansynthese membeansynthese-und membrane transport proteins code [Machine Translation].
 INVENTOR(S): Zelder, Oskar; Pompejus, Markus; **Schroeder, Hartwig**; Kroeger, Burkhard; Klopprogge, Corinna; Haberhauer, Gregor
 PATENT ASSIGNEE(S): BASF A.-G., Germany
 SOURCE: Ger. Offen., 20 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10154179	A1	20030508	DE 2001-10154179	20011105

PRIORITY APPLN. INFO.: DE 2001-10154179 20011105

AB [Machine Translation of Descriptors]. The invention concerns nucleic acid mols., their use to the construction of genetically improved microorganisms and procedure for the prodn. of fine chems., in particular amino acids with the help of these genetically improved microorganisms.

L15 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:352113 CAPLUS

TITLE: Genes those for new proteins code [Machine Translation].

INVENTOR(S): Zelder, Oskar; Pompejus, Markus; **Schroeder, Hartwig**; Kroeger, Burkhard; Klopprogge, Corinna; Haberhauer, Gregor

PATENT ASSIGNEE(S): BASF A.-G., Germany

SOURCE: Ger. Offen., 20 pp.
CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10154177	A1	20030508	DE 2001-10154177	20011105

PRIORITY APPLN. INFO.: DE 2001-10154177 20011105

AB [Machine Translation of Descriptors]. The invention concerns new nucleic acid mols., their use to the construction of genetically improved microorganisms and procedure for the prodn. of fine chems., in particular amino acids with the help of these genetically improved microorganisms.

L15 ANSWER 4 OF 21 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:504549 CAPLUS

DOCUMENT NUMBER: 137:58680

TITLE: Genes of Corynebacterium glutamicum useful for microbial engineering for fermentative production of compounds and for diagnosing infection

INVENTOR(S): Pompejus, Markus; Kroeger, Burkhard; Zelder, Oskar; **Schroeder, Hartwig**

PATENT ASSIGNEE(S): Basf Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 176 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002051231	A1	20020704	WO 2000-EP13143	20001222

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

WO 2000-EP13143

20001222

AB Twenty-three isolated nucleic acid mols., designated MP nucleic acid mols., which encode novel MP proteins from *Corynebacterium glutamicum* are described. The invention also provides antisense nucleic acid mols., recombinant expression vectors contg. MP nucleic acid mols., and host cells into which the expression vectors have been introduced. The invention still further provides isolated MP proteins, mutated MP proteins, fusion proteins, antigenic peptides and methods for the improvement of prodn. of a desired compd. from *C. glutamicum* based on genetic engineering of MP genes in this organism.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 5 OF 21 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:240976 CAPLUS

DOCUMENT NUMBER: 136:258297

TITLE: Use of replication-incompetent methylated DNA for mutagenesis in coryneform bacteria

INVENTOR(S): Pompejus, Markus; **Schroeder, Hartwig**;
Kroeger, Burkhard; Zelder, Oskar

PATENT ASSIGNEE(S): Basf Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002024917	A2	20020328	WO 2001-EP10805	20010919
WO 2002024917	A3	20020627		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10046870	A1	20020328	DE 2000-10046870	20000920
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AU 2002013937	A5	20020402	AU 2002-13937	20010919
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PRIORITY APPLN. INFO.:

DE 2000-10046870 A 20000920

WO 2001-EP10805 W 20010919

AB The invention relates to a method for producing corynebacteria that contain one or more modified genomic sequences, characterized by using a vector that does not replicate in corynebacteria and whose nucleic acid is not recognized as foreign by the corynebacteria. The DNA is methylated with a cognate DNA methyltransferase that protects it from host restriction enzymes. The replicon that us used to propagate the DNA does not function in coryneform bacteria. Selecting transformed cells for a marker on the transforming DNA forces integration. Integration can be directed by the inclusion of a host DNA sequence. The plasmid pTcl5AcgIIM carrying the cglIM gene for the *Corynebacterium glutamicum* was introduced into *Escherichia coli*. Expression of the cglIM gene resulted in the DNA having a *C. glutamicum*-specific methylation profile. A second group of plasmids derived from pSL18 and carrying the *ddh* gene were similarly methylated in *E. coli*. Transformation of *C. glutamicum* with the methylated pSL18 deriv. resulted in the appearance of transformants with an inactivated *ddh* gene. No transformants were found when unmethylated plasmids were used.

=> d 115 6-10 ibib ab

L15 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:72076 CAPLUS

DOCUMENT NUMBER: 136:118605

TITLE: Preparation of tocotrienolquinone cyclization products with an antihypercholesterol effect

INVENTOR(S): Baldenius, Kai-Uwe; **Schroeder, Hartwig**; Kraemer, Klaus; Schein, Karin; Stuermer, Rainer

PATENT ASSIGNEE(S): Basf Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 28 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002006261	A1	20020124	WO 2001-EP8163	20010713
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 10034233	A1	20020124	DE 2000-10034233	20000714
EP 1301501	A1	20030416	EP 2001-969391	20010713
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRIORITY APPLN. INFO.:			DE 2000-10034233 A	20000714
			WO 2001-EP8163 W	20010713
OTHER SOURCE(S): CASREACT 136:118605; MARPAT 136:118605				
AB The invention relates to the use of at least one component of I [R1, R2, R3, R4 = H, C1-6-alkyl] prep'd. from tocotrienols II via oxidn. and cyclization of tocotrienolquinones III. Thus, I (R1 = H, R2 - R4 = Me) was prep'd. from II (R1 = H, R2 - R4 = Me) via oxidn. with ceric ammonium nitrate in aq. EtOH followed by cyclization of the resulting quinone III (R1 = H, R2 - R4 = Me) with CsCO3 in CH2Cl2. The invention also relates to the use of I for medical purposes. I (R1 = H, R2 - R4 = Me) showed 50% inhibition of cholesterol biosynthesis at 10 ⁻⁶ M comparable to .gamma.-tocotrienol and .gamma.-tocotrienolquinone.				
REFERENCE COUNT: 7			THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT	

L15 ANSWER 7 OF 21 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:671716 CAPLUS

DOCUMENT NUMBER: 137:180754

TITLE: Procedure for the modification of the genome of gram-positive bacteria with a new conditional negatively dominant marker gene

INVENTOR(S): Pompejus, Markus; Kroeger, Burkhard; **Schroeder, Hartwig**; Zelder, Oskar

PATENT ASSIGNEE(S): BASF AG, Germany

SOURCE: Ger. Offen., 12 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10109996	A1	20020905	DE 2001-10109996	20010301
WO 2002070685	A2	20020912	WO 2002-EP2133	20020228
WO 2002070685	A3	20030123		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DE 2001-10109996 A 20010301

AB The invention concerns a new procedure for the modification of genomes of gram-pos. bacteria and construction of new vectors. In particular the invention concerns a procedure for the modification of *Corynebacteria* or *Brevibacterium* with the help of a new conditional neg. dominant. marker gene.

L15 ANSWER 8 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2002:205436 BIOSIS

DOCUMENT NUMBER: PREV200200205436

TITLE: Effects of feeding various tocotrienol sources on plasma lipids and aortic atherosclerotic lesions in cholesterol-fed rabbits.

AUTHOR(S): Hasselwander, Oliver (1); Kraemer, Klaus; Hoppe, Peter P.; Oberfrank, Uwe; Baldenius, Kai; **Schroeder, Hartwig**; Kaufmann, Wolfgang; Bahnemann, Rainer; Nowakowsky, Brigitte

CORPORATE SOURCE: (1) BASF Aktiengesellschaft, Carl-Bosch Strasse 38, D-67056, Ludwigshafen: oliver.hasselwander@basf-ag.de Germany

SOURCE: Food Research International, (2002) Vol. 35, No. 2-3, pp. 245-251. <http://www.elsevier.com/locate/foodres>. print. ISSN: 0963-9969.

DOCUMENT TYPE: Article

LANGUAGE: English

AB Tocotrienols exert hypocholesterolaemic and antioxidant effects, and may hence have anti-atherogenic properties. Therefore, the aim of this study was to investigate the cholesterol-lowering and anti-atherogenic effects of tocotrienols in cholesterol-fed rabbits. Rabbits were fed a basal diet (control) supplemented with gamma-tocotrienol, gamma-tocotrienol, gamma-tocotrienyl acetate, mixed tocotrienols or alpha-tocotrienol for 12 weeks. All treatments resulted in significant increases in plasma tocotrienols. None of the treatments, however, had significant effects on serum lipids or size of atherosclerotic lesions. A trend towards a decrease in plasma cholesterol was observed following gamma-tocotrienol treatment (-22%) after 6 weeks. The decrease was mainly attributable to a reduction in LDL cholesterol (23%), whereas HDL cholesterol increased (14%). This trend was mirrored in a non-significant reduction in lesion area (20%). Our results demonstrate that tocotrienols are absorbed, but have little effect on plasma lipids and atherosclerosis in cholesterol-fed rabbits.

L15 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:676795 CAPLUS

DOCUMENT NUMBER: 135:222397

TITLE: *Corynebacterium glutamicum* genes encoding metabolic

pathway proteins
 INVENTOR(S): Pompejus, Markus; Kroeger, Burkhard; **Schroeder, Hartwig**; Zelder, Oskar; Haberhauer, Gregor; Kim, Jun-Won; Lee, Heung-Shick; Hwang, Byung-Joon
 PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 316 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 8
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001066573	A2	20010913	WO 2000-IB2035	20001222
WO 2001066573	A3	20020510		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1261718	A2	20021204	EP 2000-987602	20001222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2000017148	A	20030311	BR 2000-17148	20001222
PRIORITY APPLN. INFO.: US 2000-187970P P 20000309				
US 2000-606740 A 20000623				
WO 2000-IB2035 W 20001222				

AB Isolated nucleic acid mols., designated MP nucleic acid mols., are provided which encode novel metabolic pathway (MP) proteins from *Corynebacterium glutamicum*. The invention also provides antisense nucleic acid mols., recombinant expression vectors contg. MP nucleic acid mols., and host cells into which the expression vectors have been introduced. The invention still further provides isolated MP proteins, mutated MP proteins, fusion proteins, antigenic peptides and methods for the improvement of prodn. of a desired compd. from *C. glutamicum* based on genetic engineering of MP genes in this organism. In particular, genes metZ (O-acetylhomoserine sulphydrylase), metC (cystathionine .beta.-lyase) and RXA00657 (encoding a transcriptional regulator) are provided which can be used to improve prodn. of amino acids such as methionine and lysine.

L15 ANSWER 10 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2000:438324 BIOSIS

DOCUMENT NUMBER: PREV200000438324

TITLE: Multistep mechanism of substrate binding determines chaperone activity of Hsp70.

AUTHOR(S): Mayer, Matthias P.; **Schroeder, Hartwig**; Ruediger, Stefan; Paal, Klaus; Laufen, Thomas; Bukau, Bernd (1)

CORPORATE SOURCE: (1) Institut fuer Biochemie und Molekularbiologie, Universitaet Freiburg, Hermann-Herder-Str. 7, 79104-D, Freiburg Germany

SOURCE: Nature Structural Biology, (July, 2000) Vol. 7, No. 7, pp. 586-593. print.
 ISSN: 1072-8368.

DOCUMENT TYPE: Article

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The 70 kDa heat shock proteins (the Hsp70 family) assist refolding of their substrates through ATP-controlled binding. We have analyzed mutants

of DnaK, an Hsp70 homolog, altered in key residues of its substrate binding domain. Substrate binding occurs by a dynamic mechanism involving: a hydrophobic pocket for a single residue that is crucial for affinity, a two-layered closing device involving independent action of an alpha-helical lid and an arch, and a superimposed allosteric mechanism of ATP-controlled opening of the substrate binding cavity that operates largely through a beta-structured subdomain. Correlative evidence from mutational analysis suggests that the ADP and ATP states of DnaK differ in the frequency of the conformational changes in the alpha-helical lid and beta-domain that cause opening of the substrate binding cavity. The affinity for substrates, as defined by this mechanism, determines the efficiency of DnaJ-mediated and ATP hydrolysis mediated locking-in of substrates and chaperone activity of DnaK.

=> d 115.11-21

L15 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2003 ACS

AN 1999:81659 CAPLUS

DN 130:152652

TI Fermentation of biotin using genetically engineered microorganisms expressing genes of biotin biosynthesis of Escherichia coli

IN **Schroeder, Hartwig**; Hauer, Bernhard

PA BASF A.-G., Germany

SO Ger. Offen., 48 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19731274	A1	19990128	DE 1997-19731274	19970722
	WO 9905285	A1	19990204	WO 1998-EP4097	19980702
	W: CA, CN, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 977867	A1	20000209	EP 1998-940118	19980702
	R: BE, CH, DE, DK, FR, GB, IT, LI, NL				
	JP 2001511350	T2	20010814	JP 2000-504259	19980702
	US 6436681	B1	20020820	US 2000-462645	20000111
PRAI	DE 1997-19731274	A	19970722		
	WO 1998-EP4097	W	19980702		

L15 ANSWER 12 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

AN 1999:57824 BIOSIS

DN PREV199900057824

TI Mutations in the DnaK chaperone affecting interaction with the DnaJ cochaperone.

AU Gaessler, Claudia; Buchberger, Alexander; Laufen, Thomas; Mayer, Matthias P.; **Schroeder, Hartwig**; Valencia, Alfonso; Bukau, Bernd (1)

CS (1) Inst. Biochem. Molekularbiol., Univ. Freiburg, Hermann-Herder-Str. 7, D-79104 Freiburg Germany

SO Proceedings of the National Academy of Sciences of the United States of America, (Dec. 22, 1998) Vol. 95, No. 26, pp. 15229-15234.

ISSN: 0027-8424.

DT Article

LA English

L15 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2003 ACS

DUPLICATE 1.

AN 1996:536112 CAPLUS

DN 125:188765

TI Substrate shuttling between the DnaK and GroEL systems indicates a chaperone network promoting protein folding

AU Buchberger, Alexander; **Schroeder, Hartwig**; Hesterkamp, Thomas;
Schoenfeld, Hans-Joachim; Bukau, Bernd
CS Zentrum Molekulare Biologie, Univ. Heidelberg, Heidelberg, D69120, Germany
SO Journal of Molecular Biology (1996), 261(3), 328-333
CODEN: JMOBAK; ISSN: 0022-2836
PB Academic
DT Journal
LA English

L15 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 2
AN 1995:697779 CAPLUS
DN 123:106430
TI Nucleotide-induced conformational changes in the ATPase and substrate
binding domains of the DnaK chaperone provide evidence for interdomain
communication

AU Buchberger, Alexander; Theyssen, Holger; **Schroeder, Hartwig**;
McCarty, John S.; Virgallita, Giuseppe; Milkereit, Philipp; Reinstein,
Jochen; Bukau, Bernd
CS Zent. Mol. Biol., Univ. Heidelberg, Heidelberg, D-69120, Germany
SO Journal of Biological Chemistry (1995), 270(28), 16903-10
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Bio logy
DT Journal
LA English

L15 ANSWER 15 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1995:349735 CAPLUS
DN 122:126742
TI The DnaK chaperone system of Escherichia coli: quaternary structures and
interactions of the DnaK and GrpE components
AU Schoenfeld, Hans-Joachim; Schmidt, Dieter; **Schroeder, Hartwig**;
Bukau, Bernd
CS Pharmaceutical Res.-New Technologies, Hoffmann-La Roche Limited, Basel,
CH-4002, Switz.
SO Journal of Biological Chemistry (1995), 270(5), 2183-9
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English

L15 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3
AN 1995:173579 CAPLUS
DN 122:3717
TI The ATP hydrolysis-dependent reaction cycle of the Escherichia coli Hsp70
system - DnaK, DnaJ, and GrpE
AU Szabo, Alexander; Langer, Thomas; **Schroeder, Hartwig**; Flanagan,
John; Bukau, Bernd; Hartl, F. Ulrich
CS Howard Hughes Med. Inst., Memorial Sloan-Kettering Cancer Cent., New York,
NY, 10021, USA
SO Proceedings of the National Academy of Sciences of the United States of
America (1994), 91(22), 10345-9
CODEN: PNASA6; ISSN: 0027-8424
PB National Academy of Sciences
DT Journal
LA English

L15 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 4
AN 1994:428446 CAPLUS
DN 121:28446
TI A conserved loop in the ATPase domain of the DnaK chaperone is essential
for stable binding of GrpE
AU Buchberger, Alexander; **Schroeder, Hartwig**; Buettner, Martina;
Valencia, Alfonso; Bukau, Bernd

CS Zent. Mol. Biol., Univ. Heidelberg, Heidelberg, 69117, Germany
SO Nature Structural Biology (1994), 1(2), 95-101
CODEN: NSBIEW; ISSN: 1072-8368
DT Journal
LA English

L15 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 5
AN 1994:2936 CAPLUS
DN 120:2936
TI DnaK, DnaJ and GrpE form a cellular chaperone machinery capable of repairing heat-induced protein damage
AU **Schroeder, Hartwig**; Langer, Thomas; Hartl, Franz Ulrich; Bukau, Bernd
CS Zent. Mol. Biol., Univ. Heidelberg, Heidelberg, D69120, Germany
SO EMBO Journal (1993), 12(11), 4137-44
CODEN: EMJODG; ISSN: 0261-4189
DT Journal
LA English

L15 ANSWER 19 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1988:170639 CAPLUS
DN 108:170639
TI Lubricant preparation
IN **Schroeder, Hartwig**
PA Tribol Lubricants G.m.b.H., Fed. Rep. Ger.
SO Ger. Offen., 3 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3610205	A1	19871001	DE 1986-3610205	19860326
	AU 8770585	A1	19871001	AU 1987-70585	19870324
	AU 589755	B2	19891019		
	EP 239088	A2	19870930	EP 1987-104381	19870325
	EP 239088	A3	19880720		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	US 4786423	A	19881122	US 1987-30090	19870325
	JP 62275198	A2	19871130	JP 1987-72966	19870326
	JP 03061717	B4	19910920		
	CA 1293243	A1	19911217	CA 1987-541296	19870703
PRAI	DE 1986-3610205		19860326		

L15 ANSWER 20 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1983:105828 CAPLUS
DN 98:105828
TI Biocides in humans. Residues in human milk and organs
AU Mueller, Bernd; **Schroeder, Hartwig**
CS Chem. Untersuchungsamt Stadt Hagen, Hagen, Fed. Rep. Ger.
SO Ernaehrungs-Umschau (1982), 29(11), 359-62
CODEN: ERUMAT; ISSN: 0014-021X
DT Journal
LA German

L15 ANSWER 21 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1979:20921 CAPLUS
DN 90:20921
TI Biocides in human fat tissue and human milk. Discussion on the infant nutrition problem
AU Mueller, Bernd; **Schroeder, Hartwig**
CS Chem. Untersuchungsamt, Hagen, Fed. Rep. Ger.
SO Ernaehrungs-Umschau (1978), 25(7), 205-9

CODEN: ERUMAT; ISSN: 0014-021X

DT Journal
LA German

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11:16:38 ON 09 MAY 2003

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L2	0 S (SAM SYNTHASE OR S-ADENOSYL METHIONINE SYNTHASE) AND (BIOS1 O
L3	0 S SYNTHASE AND (BIOS1 OR BIOS2 OR BIOS3)
L4	3 S (BIOTIN OR VITAMIN H) AND (BIOS1 OR BIOS2 OR BIOS3)
L5	2 DUP REM L4 (1 DUPLICATE REMOVED)
L6	3 S (GENE OR DNA OR NUCLEIC ACID) AND (BIOS1 OR BIOS2 OR BIOS3)
L7	2 DUP REM L6 (1 DUPLICATE REMOVED)
L8	4 S (BIOS1 OR BIOS2 OR BIOS3)
L9	3 DUP REM L8 (1 DUPLICATE REMOVED)
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L13	1 S L12 AND ESCHERICHIA COLI
L14	26 S SCHROEDER HARTWIG/AU
L15	21 DUP REM L14 (5 DUPLICATES REMOVED)

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☐ 1: F65063. Cysteine sulfinat...[gi:7448205]

[BLink](#), [Domains](#), [Links](#)

LOCUS F65063 401 aa linear BCT 01-MAR-2002
 DEFINITION Cysteine sulfinate desulfinate (EC 4.4.1.-) (CSD) - Escherichia coli (strain K-12).
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 VERSION F65063 GI:7448205
 DBSOURCE pir: locus F65063;

summary: #length 401 #molecular-weight 43234 #checksum 6998
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 superfamily: nifs protein
 ;
 PIR dates: 12-Sep-1997 #sequence_revision 17-Sep-1997 #text_change 01-Mar-2002

KEYWORDS carbon-sulfur lyase.
 SOURCE Escherichia coli
 ORGANISM Escherichia coli
 Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales; Enterobacteriaceae; Escherichia.
 REFERENCE 1 (residues 1 to 401)
 AUTHORS Blattner, F.R., Plunkett III, G., Bloch, C.A., Perna, N.T., Burland, V., Riley, M., Collado-Vides, J., Glasner, J.D., Rode, C.K., Mayhew, G.F., Gregor, J., Davis, N.W., Kirkpatrick, H.A., Goeden, M.A., Rose, D.J., Mau, B. and Shao, Y.
 TITLE The complete genome sequence of Escherichia coli K-12
 JOURNAL Science 277 (5331), 1453-1474 (1997)
 MEDLINE 97426617
 PUBMED 9278503

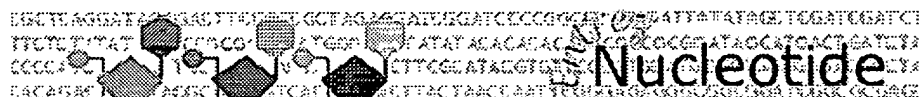
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 /db_xref="taxon:562"
 Protein 1..401
 /product="Cysteine sulfinate desulfinate (CSD)"
 /EC_number="4.4.1.-"

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 61 ltaryeaare kvaqllnapd dktivwtrgt tesinmvaqc yarprlqpgd eiivsvaehh
 121 anlvpwlmva qqtgakovkl plnaqrlpdv dllpelitpr srilalgqms nvtggcpdla
 181 raitfahsag mvvmvdgaqg avhfpadvqq ldidfyafsg hklygptgig vlygkselle
 241 amspwlgggk mvhevsfdgf ttqsapwkle agtpnvagvi glsaalewla dydingaesw
 301 srslatlaed alakrpgfrs frcqdsslla fdfagvhhsd mvtllaeygi alragqhcaq
 361 pllaelgvtg tlrasfapyn tksdvdalvn avdralellv d

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May 2 2003 16:47:12



1: H64925. yr68a10.r1 Soares...[gi:1023665]

Links

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EST name: yr68a10.r1
GenBank Acc: H64925
GenBank gi: 1023665
GDB Id: 3783267

Clone Id: IMAGE:210426 (5')
Insert length: 1847
DNA type: cDNA

Sequencing: M13RP1
PolyA Tail: Unknown

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High quality sequence stops at base: 324

Quality: High quality sequence stops at base: 324

Entry Created: Oct 18 1995
Last Updated: Oct 18 1995

Insert Size: 1847
High quality sequence stops: 324
Source: IMAGE Consortium, LLNL
This clone is available royalty-free through LLNL ; contact
the IMAGE Consortium (info@image.llnl.gov) for further
information.

```

Lib Name:      Soares fetal liver spleen 1NFLS
Organism:      Homo sapiens
Sex:           male
Organ:         Liver and Spleen
Develop. stage: 20 week-post conception fetus
Lab host:      DH10B (ampicillin resistant)
Vector:        pT7T3D (Pharmacia) with a modified polylinker
R. Site 1:     Pac I
R. Site 2:     Eco RI

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Description: 1st strand cDNA was primed with a Pac I - oligo(dT) primer [5' AACTGGAAGAAATTAATTAAAGATCTTTTTTTTTTTTTTTTTTTT 3'], double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Pac I and cloned into the Pac I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization. Library constructed by Bento Soares and M.Fatima Bonaldo.

SUBMITTER

Name: Wilson RK
Institution: Washington University School of Medicine
Address: 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
E-mail: est@watson.wustl.edu

CITATIONS

Medline UID: 97044478
Title: Generation and analysis of 280,000 human expressed sequence tags
Authors: Hillier,L., Lennon,G., Becker,M., Bonaldo,M.F., Chiapelli,B., Chissoe,S., Dietrich,N., DuBuque,T., Favello,A., Gish,W., Hawkins,M., Hultman,M., Kucaba,T., Lacy,M., Le,M., Le,N., Mardis,E., Moore,B., Morris,M., Parsons,J., Prange,C., Rifkin,L., Rohlfing,T., Schellenberg,K., Soares,M.B., Tan,F., Thierry-Meg,J., Trevaskis,E., Underwood,K., Wohldmann,P., Waterston,R., Wilson,R., Marra,M.
Citation: Genome Res. 6 (9): 807-828 1996

MAP DATA

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May 2 2003 16:47:12

WEST

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L1: Entry 1 of 3

File: USPT

Aug 20, 2002

US-PAT-NO: 6436681

DOCUMENT-IDENTIFIER: US 6436681 B1

TITLE: Method for producing biotin

DATE-ISSUED: August 20, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schroder; Hartwig	Nussloch			DE
Hauer; Bernhard	Fussgonheim			DE

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
BASF Aktiengesellschaft	Ludwigshafen			DE	03

APPL-NO: 09/ 462645 [PALM]

DATE FILED: January 11, 2000

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DE	197 31 274	July 22, 1997

PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/EP98/04097	July 2, 1998	WO99/05285	Feb 4, 1999	Jan 11, 2000	Jan 11, 2000

INT-CL: [07] C12 P 17/18, C12 N 9/00, C12 N 1/21, C12 N 15/52, C07 M 21/04

US-CL-ISSUED: 435/119; 435/41, 435/183, 435/252.3, 435/254.11, 435/254.2, 435/320.1, 435/440, 536/23.2

US-CL-CURRENT: 435/119; 435/183, 435/252.3, 435/254.11, 435/254.2, 435/320.1, 435/41, 435/440, 536/23.2

FIELD-OF-SEARCH: 435/183, 435/41, 435/320.1, 435/119, 435/252.3, 435/254.11, 435/254.2, 435/410

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected

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ISSUE-DATE

PATENTEE-NAME

US-CL

6361978

March 2002

Hoshino et al.

435/119

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0 236 429	April 1993	EP	
0 635 572	June 1994	EP	
0 449 721	May 1997	EP	
0 806 479	November 1997	EP	
WO 94/08023	April 1994	WO	

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ART-UNIT: 1652

PRIMARY-EXAMINER: Slobodyansky; Elizabeth

ATTY-AGENT-FIRM: Keil & Weinkauff

ABSTRACT:

A gene construct comprising a biotin gene having the sequence SEQ ID No. 1 or SEQ ID No. 3, organisms which comprise this gene construct, the use of these sequences or of the gene construct for preparing biotin, and a process for preparing biotin are described.

7 Claims, 4 Drawing figures

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L1: Entry 1 of 3

File: USPT

Aug 20, 2002

US-PAT-NO: 6436681

DOCUMENT-IDENTIFIER: US 6436681 B1

TITLE: Method for producing biotin

DATE-ISSUED: August 20, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schroder; Hartwig	Nussloch			DE
Hauer; Bernhard	Fussgonheim			DE

US-CL-CURRENT: 435/119; 435/183, 435/252.3, 435/254.11, 435/254.2, 435/320.1, 435/41, 435/440, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC
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☐ 2. Document ID: WO 9942591 A1

L1: Entry 2 of 3

File: EPAB

Aug 26, 1999

PUB-NO: WO009942591A1

DOCUMENT-IDENTIFIER: WO 9942591 A1

TITLE: METHOD FOR PRODUCING BIOTIN

PUBN-DATE: August 26, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
SCHROEDER, HARTWIG	DE

INT-CL (IPC): C12 N 15/54; C12 P 17/18; C12 N 9/10; C12 N 1/21
EUR-CL (EPC): C12N009/10; C12N009/10, C12P017/18

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC
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☐ 3. Document ID: DE 19806872 A1 JP 2002504338 W WO 9942591 A1 EP 1054977 A1
CN 1291232 A KR 2001041062 A

L1: Entry 3 of 3

File: DWPI

Aug 26, 1999

DERWENT-ACC-NO: 1999-480095

DERWENT-WEEK: 200215

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TITLE: Production of biotin by expressing S-adenosyl-methionine synthase and second biotin synthesis gene in host cells

INVENTOR: SCHROEDER, H

PRIORITY-DATA: 1998DE-1006872 (February 19, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 19806872 A1	August 26, 1999		047	C12N015/63
JP 2002504338 W	February 12, 2002		102	C12N015/09
WO 9942591 A1	August 26, 1999	G	000	C12N015/54
EP 1054977 A1	November 29, 2000	G	000	C12N015/54
CN 1291232 A	April 11, 2001		000	C12N015/54
KR 2001041062 A	May 15, 2001		000	C12N015/54

INT-CL (IPC): C07 D 495/04; C07 H 21/04; C12 N 1/00; C12 N 1/15; C12 N 1/19; C12 N 1/21; C12 N 5/10; C12 N 9/10; C12 N 15/09; C12 N 15/54; C12 N 15/60; C12 N 15/63; C12 P 17/18; C12 P 17/18; C12 R 1:19; C12 N 1/21; C12 R 1:19; C12 N 1/21; C12 P 17/18; C12 R 1:19; C12 P 17/18; C12 R 1:19; C12 N 1/21; C12 R 1:19

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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biotin biosynthesis and (bioS1 or bioS2 or bioS3)	3

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Search Results - Record(s) 1 through 3 of 3 returned.☐ 1. Document ID: US 6436681 B1

L6: Entry 1 of 3

File: USPT

Aug 20, 2002

US-PAT-NO: 6436681

DOCUMENT-IDENTIFIER: US 6436681 B1

TITLE: Method for producing biotin

DATE-ISSUED: August 20, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schroder; Hartwig	Nussloch			DE
Hauer; Bernhard	Fussgonheim			DE

US-CL-CURRENT: 435/119; 435/183, 435/252.3, 435/254.11, 435/254.2, 435/320.1, 435/41,
435/440, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KWIC
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☐ 2. Document ID: WO 9942591 A1

L6: Entry 2 of 3

File: EPAB

Aug 26, 1999

PUB-NO: WO009942591A1

DOCUMENT-IDENTIFIER: WO 9942591 A1

TITLE: METHOD FOR PRODUCING BIOTIN

PUBN-DATE: August 26, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
SCHROEDER, HARTWIG	DE

INT-CL (IPC): C12 N 15/54; C12 P 17/18; C12 N 9/10; C12 N 1/21
EUR-CL (EPC): C12N009/10; C12N009/10, C12P017/18

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KWIC
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☐ 3. Document ID: DE 19806872 A1 JP 2002504338 W WO 9942591 A1 EP 1054977 A1
CN 1291232 A KR 2001041062 A

L6: Entry 3 of 3

File: DWPI

Aug 26, 1999

DERWENT-ACC-NO: 1999-480095

DERWENT-WEEK: 200215

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TITLE: Production of biotin by expressing S-adenosyl-methionine synthase and second biotin synthesis gene in host cells

INVENTOR: SCHROEDER, H

PRIORITY-DATA: 1998DE-1006872 (February 19, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 19806872 A1	August 26, 1999		047	C12N015/63
JP 2002504338 W	February 12, 2002		102	C12N015/09
WO 9942591 A1	August 26, 1999	G	000	C12N015/54
EP 1054977 A1	November 29, 2000	G	000	C12N015/54
CN 1291232 A	April 11, 2001		000	C12N015/54
KR 2001041062 A	May 15, 2001		000	C12N015/54

INT-CL (IPC): C07 D 495/04; C07 H 21/04; C12 N 1/00; C12 N 1/15; C12 N 1/19; C12 N 1/21; C12 N 5/10; C12 N 9/10; C12 N 15/09; C12 N 15/54; C12 N 15/60; C12 N 15/63; C12 P 17/18; C12 P 17/18; C12 R 1:19; C12 N 1/21; C12 R 1:19; C12 N 1/21; C12 P 17/18; C12 R 1:19; C12 P 17/18; C12 R 1:19; C12 N 1/21; C12 R 1:19

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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Terms	Documents
(bioS1 or bioS2 or bioS3)and synthase	3

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result set

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L5	(bioS1 or bioS2 or bioS3)and SAM synthase	0	L5
L4	(bioS1 or bioS2 or bioS3)and dna	1	L4
L3	(bioS1 or bioS2 or bioS3)	15	L3
L2	biotin and (bioS1 or bioS2 or bioS3)	4	L2
L1	biotin biosynthesis and (bioS1 or bioS2 or bioS3)	3	L1

END OF SEARCH HISTORY